

REMARKS

The above-captioned application is a divisional of United States Application Serial No. 08/978,289, filed November 25, 1997, now U.S. Patent No. 6,361,939, which claims priority from Provisional U.S. Patent Application Numbers 60/031,806, filed November 27, 1996, and 60/032,767, filed December 11, 1996.

Claims 20-27 are pending. Claims 1-19 were previously canceled. Claims 20-27 stand rejected.

Rejections under 35 U.S.C. §§ 101 and 112, first paragraph

Claims 20-27 stand rejected under 35 U.S.C. § 101 as lacking either a specific and substantial asserted utility or a well established utility. Specifically, the Examiner stated that applicants' previous argument that the polynucleotides of the instant claims have utility as markers for dendritic cells is not persuasive because page 77 of applicants' specification discloses that the polynucleotides are expressed in dendritic cells, T cells, B cells and monocytes. In addition, claims 20-27 stand rejected under 35 U.S.C. § 112, first paragraph, for lack of enablement. Specifically, the Examiner stated that one of skill in the art would not know how to use the claimed invention so that it would operate as intended without undue experimentation.

Applicants respectfully disagree. Page 77 of applicants' specification discloses the tissue/cell distribution of A05F12 (diubiquitin). Applicants' pending claims, on the other hand, are directed to A07C03 (Ig family).

Applicants' specification, for example, at page 79, lines 3-11, discloses the dendritic cell-specific expression of A07C03. Accordingly, a person having skill in the art would be able to use the claimed polynucleotides as markers for dendritic cells. The specification also indicates that some signal may be seen in monocytes. Because monocytes are dendritic cell

precursors, the claimed polynucleotides may also be used as markers for dendritic cell precursors. Therefore, the claimed polynucleotides may be used as markers for dendritic cells and/or dendritic cell precursors. In conclusion, applicants submit that claims 20-27 satisfy the requirements of 35 U.S.C. § 101. Accordingly, withdrawal of the rejections under 35 U.S.C. §§ 101 and 112, first paragraph are respectfully requested.

Rejection under 35 U.S.C. § 112, first paragraph

Written Description

Claims 20, 21, 23 and 25-27 stand rejected under 35 U.S.C. § 112, first paragraph, for lack of written description. Specifically, the Examiner stated that the following subject matter was not described in such a way as to reasonably convey to one of skill in the art that the inventor had possession of the claimed invention:

Claim 20 - the phrase "comprising amino acids 1-219";

Claim 21 - the phrase "comprising nucleotides 111-167"; and

Claim 23 - the phrase "comprising nucleotides 45-767".

Claim 20 recites an isolated or recombinant polynucleotide encoding a polypeptide comprising amino acids 1-219 of SEQ ID NO: 8. Claim 21 recites the polynucleotide of claim 20 comprising nucleotides 111-767 of SEQ ID NO: 7. Applicants submit that support for claims 20 and 21 can be found in several areas of the specification. For example, page 4, line 15 and original claim 3c (page 109) of the specification state that an embodiment of A07C03 comprises a mature sequence of Table 2. A person having ordinary skill in the art knows that a mature polypeptide does not contain a signal sequence and that a polynucleotide encoding a mature polypeptide does not encode for the signal sequence of the polypeptide. See, for example, Figure 8-29 and Figure 8-41 of Alberts *et al.*, Molecular Biology of the Cell (second edition), Garland Publishing, pp. 428 and 439 (1989). The legend to Table 2 on

page 22 of applicants' specification, which relates to A07C03 polynucleotides and polypeptides, states that a signal sequence runs from amino acid residue -22 (Met) to amino acid residue -1 (Val). Therefore, the mature A07C03 polypeptide starts at amino acid residue 1 (Gly) and ends at amino acid residue 219 (Pro). In addition, on page 95 of applicants' specification, one of the features in the sequence listing for SEQ ID NO: 7, which relates to the nucleic acid sequence of A07C03, states that the mature peptide is located from nucleic acid residues 111-767. Nucleic acid residue 111 (guanine) corresponds to amino acid residue 1 (Gly) while nucleic acid residue 767 (adenine) corresponds to amino acid residue 219 (Pro). Therefore, applicants submit that the specification provides adequate written description for claims 20 and 21, and that the phrases "comprising amino acids 1-219" and "comprising nucleotides 111-767" that were identified by the Examiner do not constitute new matter.

Claim 23 recites the polynucleotide of claim 22 comprising nucleotides 45-767 of SEQ ID NO: 7. Applicants submit that support for claim 23 can be found in several areas of applicants' specification. For example, page 7, line 32-33, states that a nucleic acid embodiment of the invention comprises a natural full length coding sequence for A07C03. A person having ordinary skill in the art knows that a natural full length coding sequence includes the coding sequence for a signal peptide. As stated above, the legend to Table 2 states that a signal sequence for A07C03 runs from amino acid residue -22 (Met) to amino acid residue -1 (Val). Therefore, the natural full length coding sequence for A07C03 polypeptide starts at amino acid residue -22 (Met) and ends at amino acid residue 219 (Pro). Nucleic acid residue 45 (adenine) corresponds to amino acid residue -22 (Met) while nucleic acid residue 767 (adenine) corresponds to amino acid residue 219 (Pro). In addition, on page 95 of the specification, one of the features in the sequence listing for SEQ ID NO: 7, which relates to the nucleic acid sequence of A07C03, states that the coding sequence is located from nucleic acid residues 45-767. Therefore, applicants submit that the specification

provides adequate written description for claim 23, and that the phrase "comprising nucleotides 45-767" that was identified by the Examiner does not constitute new matter.

Applicants further submit that claims 25-27, which depend from the above claims, are adequately described for the reasons stated above. Therefore, applicants submit that claims 20-21, 23 and 25-27 satisfy the requirements of 35 U.S.C. § 112, first paragraph. Accordingly, withdrawal of the rejection under 35 U.S.C. § 112, first paragraph, for lack of written description is respectfully requested.

CONCLUSION

Applicants submit that claims 20-27 have utility, are enabled, and are described in the specification. Accordingly, reconsideration of the rejections and allowance of the claims at an early date are earnestly solicited.

If the undersigned can be of assistance to the Examiner in addressing issues to advance the application to allowance, please contact the undersigned at the number set forth below.

Respectfully submitted,



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